

Abstract

An apparatus for treating harmful substances contained in a waste gas discharged from waste burning plant including an insulating honeycomb structural body made of ceramics containing a material having photocatalysis, a number of through holes formed in the honeycomb structural body in parallel with each other, first and second mesh electrodes arranged on respective end surfaces of the honeycomb structural body, and a pulse supply source connected across the first and second mesh electrodes. The waste gas is flowed through the through holes formed in the honeycomb structural body, while pulse corona discharge plasma is uniformly generated along the through holes. Harmful substances contained in the waste gas are decomposed by high energy electrons and radicals generated by the discharge plasma, and the material having photocatalysis is excited with ultraviolet emitted from the discharge plasma to produce active oxygen which decompose and/or oxidize the harmful substances.

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